08/86/326

POWERED WHEELCHAIR RAMP FOR MINIVANS

ABSTRACT

5

8

8

15

20

A powered wheelchair ramp includes a drive mechanism having a gear, a cam, and a lever arm keyed to a common shaft to prevent relative motion among these elements. electric motor drives the gear through a clutch and the lever arm raises or lowers a folding ramp. Energy storage ns engage the cam through a follower for storing energy as the ramp is lowered. The energy storage means also damps the motion of the ramp. When the ramp is raised, the energy storage means aids lifting the ramp. The torques applied to the common shaft are such that the net torque in either direction about the shaft is below a predetermined amount. The result is that the ramp can be raised and lowered easily, even by a single person in a wheelchair sitting beside the ramp. The clutch is released for manual operation and can engage at any point for powered operation.